

CLAIMS

What is claimed is:

- 1 1. An electronics unit, comprising:
2 a low multi-point metallic mount;
3 an insulating layer comprising a sintered electrically insulating polymer
4 layer arranged on said mount;
5 a conductor track system comprising a sintered glass frit with a noble
6 metal filling arranged on said insulating layer; and
7 electronic power components arranged on said conductor track system.
- 1 2. The electronics unit of claim 1, wherein said noble metal filling
2 comprises one of a silver filling and a filling containing silver.
- 1 3. The electronics unit of claim 1, wherein said glass frit is a low
2 melting-point glass frit.
- 1 4. The electronics unit of claim 2, wherein said glass frit is a low
2 melting-point glass frit.
- 1 5. The electronics unit of claim 1, wherein said mount is made of a
2 material from the group consisting of aluminum and an aluminum alloy.
- 1 6. The electronics unit of claim 1, wherein said mount comprises
2 cooling ribs.

1 7. The electronics unit of claim 1, wherein said power components
2 comprise at least one of power semiconductor elements and driver components.

1 8. The electronics unit of claim 1, further comprising at least one of
2 electrical and electronic components arranged on the conductor track system.

1 9. The electronics unit of claim 8, wherein said power components
2 and said at least one of electrical and electronic components are conductively
3 connected to the conductor track system by one of soldering and bonding.

1 10. The electronics unit of claim 1, wherein said power components are
2 conductively connected to the conductor track system by one of soldering and bonding.

1 11. The electronics unit of claim 1, wherein said electrically insulating
2 polymer layer has a thickness of about $>20\text{ }\mu\text{m}$.

1 12. The electronics unit of claim 1, further comprising:
2 a further insulating layer comprising a sintered polymer arranged on said
3 conductor track system and on said electronic power components;
4 a further conductor track system comprising a sintered glass frit with noble
5 metal filling arranged on said further insulating layer; and
6 further electronic power components arranged on said further conductor
7 track system.

1 13. A method for producing an electronics unit having a low multi-point
2 metallic mount, an insulating layer comprising a sintered electrically insulating polymer
3 layer arranged on the mount, a conductor track system comprising a sintered glass frit
4 with a noble metal filling arranged on the insulating layer, and electronic power
5 components arranged on the conductor track system, said method comprising the steps
6 of:

7 applying the electrically insulating polymer layer to the mount;

8 drying and sintering the electrically insulating polymer layer in a
9 temperature-controlled process;

10 applying the conductor track system to the polymer layer as a paste
11 system comprising a low melting-point glass frit with noble metal filling;

12 drying and sintering the conductor track system in a temperature-
13 controlled process; and

14 conductively arranging the electronic power components on the conductor
15 track system.

1 14. The method of claim 13, wherein the temperature-controlled
2 processes for sintering the polymer layer and for sintering the conductor track system
3 are performed as a joint sintering process.

1 15. The method of claim 13, wherein said step of drying the polymer
2 layer and drying the conductor track system is performed at a temperature of about
3 150°C.

1 16. The method of claim 13, wherein the temperature-controlled
2 process for sintering the polymer layer is performed at a temperature of about 200°C.

1 17. The method of claim 16, wherein the temperature-controlled
2 process for sintering the polymer layer is performed for about one hour.

1 18. The method of claim 13, wherein the temperature-controlled
2 process for sintering the polymer layer is performed at a temperature of between about
3 450°C and 550°C.

1 19. The method of claim 13, wherein the temperature-controlled
2 process for sintering the polymer layer is performed at a temperature of about 500°C.

1 20. The method of claim 13, wherein said step conductively arranging
2 includes one of soldering, bonding, and adhesive bonding the electronic power
3 components on the conductor track system.

1 21. A method for producing an electronics unit having a low multi-point
2 metallic mount, an insulating layer comprising a sintered electrically insulating polymer
3 layer arranged on the mount, a conductor track system comprising a sintered glass frit
4 with a noble metal filling arranged on the insulating layer, and electronic power
5 components arranged on the conductor track system, said method comprising the steps
6 of:

7 applying a layer assembly comprising the electrically insulating polymer
8 layer and the conductor track system which is arranged on the polymer layer to a
9 flexible mount, the conductor track layer being applied as a paste system comprising a
10 low melting-point glass frit with a noble metal filling;

11 drying the layer assembly on the flexible mount, in that the layer assembly
12 together with the polymer layer on the mount is applied such that it rests on the mount

13 disconnecting the flexible mount from the layer assembly; and

14 sintering the layer assembly onto the mount in a temperature-controlled
15 process.

1 22. The method of claim 21, wherein the temperature-controlled
2 process for sintering the polymer layer is performed at a temperature of between about
3 450°C and 550°C.

1 23. The method of claim 21, wherein the temperature-controlled
2 process for sintering the polymer layer is performed at a temperature of about 500°C.

1 24. The method of claim 21, further comprising the step of conductively
2 arranging the electronic power components on conductor track system by one of
3 soldering, bonding, and adhesive bonding the electronic power components on the
4 conductor track system.